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Typification of the names of *Carex helodes* Link, *Carex laevigata* Sm. and *Carex patula* Schkuhr (Cyperaceae)

Modesto Luceño, Marcial Escudero & Feliz Muñoz Garmendia

Abstract

LUCEÑO, M., M. ESCUDERO & F. MUÑOZ GARMENDIA (2009). Typification of the names of *Carex helodes* Link, *Carex laevigata* Sm. and *Carex patula* Schkuhr (Cyperaceae). *Candollea* 64: 39-43. In English, English and French abstracts.

The name of *Carex helodes* Link is neotypified. This species has been erroneously considered as a synonym of *Carex laevigata* Sm. and *Carex patula* Schkuhr, which the names are also lectotypified. Each type is illustrated and discussed.

Key-words

CYPERACEAE – *Carex* – Typification

Résumé

LUCEÑO, M., M. ESCUDERO & F. MUÑOZ GARMENDIA (2009). Typification des noms de *Carex helodes* Link, *Carex laevigata* Sm. et *Carex patula* Schkuhr (Cyperaceae). *Candollea* 64: 39-43. En anglais, résumés anglais et français.

Le nom de *Carex helodes* Link est néotypifié. Cette espèce a été considérée de manière erronée comme un synonyme de *Carex laevigata* Sm. et *Carex patula* Schkuhr dont les noms sont aussi lectotypifiés. Chaque type est illustré et discuté.

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Introduction

Carex helodes Link was described in 1800 on specimens gathered by the author in central-south Portugal, who circumscribed this species as follows: “*spiculae masculae 1-3 terminales elongatae, squamis lanceolato-linearibus acutis fuscis; feminae 3-4, axillares, pedicellatae, erectae...*”.

Two months before the publication of *C. helodes*, the species *C. laevigata* Sm. was described from Scotland by Sir James Edward Smith. The latter taxon, distributed in western Europe and NW Africa, is characterized by a single male spike (rarely two), acuminate, pale brown female glumes and a usually pendent lower female spike.

KÜKENTHAL (1909) considered Smith's species a synonym of that described by Link, and referred all specimens analysed to *C. helodes*, a taxonomic decision which was followed by several authors (SAMPAIO, 1908-1909; MAIRE, 1957; VICIOSO, 1959). Surprisingly, CHATER (1980), in his account of European species of *Carex* L., only mentioned “*C. helodes* auct., non Link” as a synonym of *C. laevigata*, but did not mention the genuine *C. helodes*.

At the beginning of the twentieth century, *C. intacta* Samp. was described from south Portugal. He differentiated the new species from *C. laevigata* by having “*spicae masculae 2-7, ferruginae [...] ceterae 2-3 feminae, interdum androgynae [...] omnes squamis castaneis, oblongis, obtusisve emarginatis et longe mucronatis*”. However, some years later, SAMPAIO (1921) himself, based on Link's diagnosis, reduced *C. intacta* to synonym with *C. helodes*.

LUCEÑO (1992), using morphological and cytogenetic data, emphasized the taxonomical status of *C. helodes* as a separate species different from *C. laevigata* and lectotypified Sampaio's *C. intacta*. Furthermore, LUCEÑO (1992) added a diagnostic character, viz. epiphyllously rough throughout, to those given by SAMPAIO (1908-1909, 1921). Subsequent DNA sequence and ecological analyses (ESCUDERO & al., 2008a; ESCUDERO & al., 2008b) have been conducted, based on Portuguese populations and recently found Moroccan and Spanish populations of *C. helodes* (LUCEÑO & ESCUDERO, 2006; LUCEÑO & al., 2007). These studies revealed not only the monophyly of this species but also its clear and well supported independence from *C. laevigata*.

Most of Link's herbarium is conserved at B (CHAUDHRI & al., 1972; STAFLEU & COWAN, 1981), but no *C. helodes* material collected by Link is maintained, and *C. helodes* is not included in the *Cyperaceae* checklist of B (BOECKELER, 1867-1868, 1869-1870, 1871-1873, 1874, 1875, 1876, 1877). Moreover, KÜKENTHAL (1909), who undoubtedly revised the *Carex* material in B, did not mention any herbarium specimens of *C. helodes* collected by Link. Hence, one can conclude that type material of *C. helodes* was probably never preserved at B.

On the other hand, *C. patula* Schkuhr was described in Portugal. Schkuhr did not exclude the possibility that the Portuguese specimens received from Link, which he used for the description of this species, could also belong to *C. helodes*. However, he emphasized the presence of solitary male spikes in the collections examined, in contrast to Link's diagnosis of *C. helodes* (1-3 male spikes), and admitted that he had never seen *C. helodes* material. As there is no specimen of *C. patula* in Schkuhr's herbarium at HAL (BRAUN & WERNER, 2007), we designate the figure 116 as the lectotype. This figure shows a rather typical specimen of *C. laevigata*, which is concordant with BOECKELER, 1867-1868, 1869-1870, 1871-1873, 1874, 1875, 1876, 1877) that *C. patula* is just a synonym of *C. laevigata*.

We have consulted numerous herbaria in addition to those that conserve plants collected by Link, but failed in finding any authentic collections attributable to *C. helodes*. Based on the description given by Link, *C. helodes* does not correspond to *C. laevigata*, since this species displays 1(-2) male spikes and a pendent lowest female spike including pale brown glumes instead of “*fuscis*” glumes as stated in Link's protologue.

For the above mentioned reasons, we consider *C. helodes* being the adequate binomial for the sedge species occurring in the SW of the Iberian Peninsula and the NW of Morocco, which was later described by SAMPAIO (1908-1909) as *C. intacta*. Due to a low likelihood to find type material of *C. helodes*, the selection of a neotype is, in our opinion, the best solution to solve an old nomenclatural problem and the confusion about two well defined species. Furthermore, it seems that *C. helodes* is now extinct at its classical locality (Setubal). Consequently, we propose a neotypification.

Typifications

Carex helodes Link in J. Bot. (Schrader) 2: 309. 1800.

Neotypus (designated here): **PORTUGAL. Algarve:** between Bispo and Barranco Velho, seasonally inundated grassland in forest of *Quercus suber*, 37°13'47"N 7°55'59"W, 491 m, 23.V.2006, Luceño, M., M. Escudero & P. Jiménez s.n. (UPOS 1925; iso-: B, BC, BM, C, COI, G, K, LE, LISE, LISI, LISU, MA, NY, O, P, SEV, UPOS) (Fig. 1).

= *C. intacta* Samp. in Bol. Soc. Brot. 24: 118. 1908-1909.

Lectotypus (designated by LUCEÑO, 1992): **PORTUGAL. Baixo Alentejo:** Odemira, Pego das Pías, IV.1905, s.coll. (O[0563GS]).



Fig. 1. – Neotype of *Carex helodes* Link.

[Luceño & al. s.n., UPOS] [© University Pablo de Olavide. Reproduced with permission]



Fig. 2. – Lectotypus of *C. laevigata* Sm. [specimen in the left side, with the arrow].
[s.coll., LINN-SM] [© Linnean Society of London. Reproduced with permission]

Carex laevigata Sm. in Trans. Linn. Soc. London 5: 272. 1800.

Lectotypus (here designated): **SCOTLAND. Central Scotland:** marsh near Glasgow, 1796, *Mackai 44* (LINN-SM [1441.196] (Fig. 2, with the arrow).

= *C. patula* Schkuhr, Besch. Riedgräs.: 115. 1801. **Lectotypus** (designated here): [icon] Schkuhr, Besch. Riedgräs.: 115, tab. 286, fig. 116. 1801.

Note. – The sheet lacks labels, but there is a handwritten text by Smith which reads “marsh near Glasgow. Mackai. 1796. n. 44 & 1797. n. 6”. This agrees exactly with the protologue, except for the year (probably due to a mistake made by Smith). Nevertheless, there is no doubt that this sheet represents type material.

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